

## BUFFALO PORTABLE FORCES.

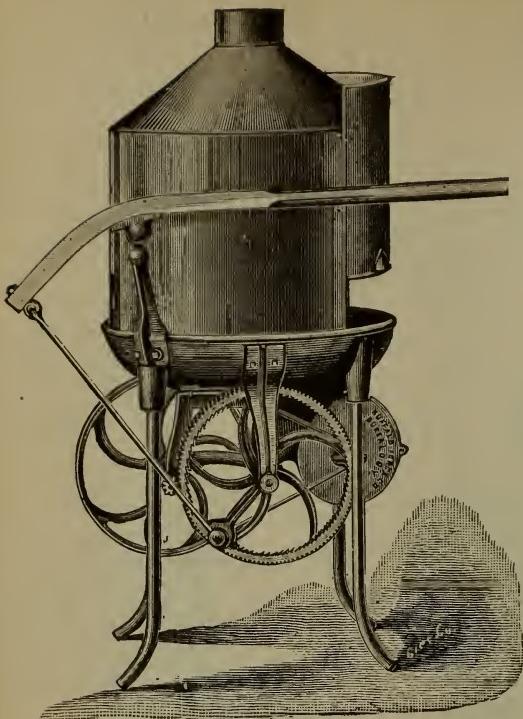


Fig. 669.

### CLOSED HOOD FORCE.

Fig. 669 FORGE.—With closed hood ; height, 29 in. ; fan, 10 in. ; hearth, 21 x 27 in. ; weight, 150 lbs.

Price, \$42.00.

The closed hoods are strongly made of steel, completely enclosing the fireplace, and are fitted with a large sliding door in front and small one in rear, for manipulating fire, etc. Thus equipped, the escape of sparks, fumes and smoke is prevented, and adapts them for use in annealing and refining metals, and in planing mills, furniture factories, saw mills, oil refineries, sugar works, etc.

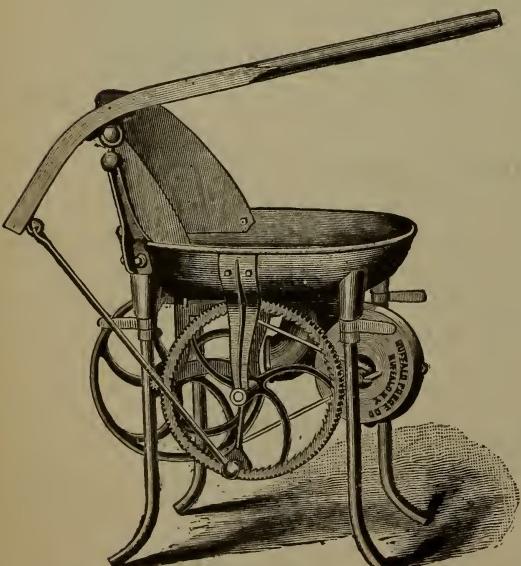


Fig. 670.

### BOILER MAKERS' FORCE.

Fig. 670 FORGE.—With dash ; height, 29 in. ; fan, 10 in. ; hearth, 21 x 27 in. ; weight, 140 lbs.

Price, \$36.00.

No boiler shop is completely equipped without this forge, which is especially intended for the use of iron bridge and ship builders, railroad contractors and general out-door work.

They have received the endorsement of some of the most prominent users, as being far superior to anything ever produced.

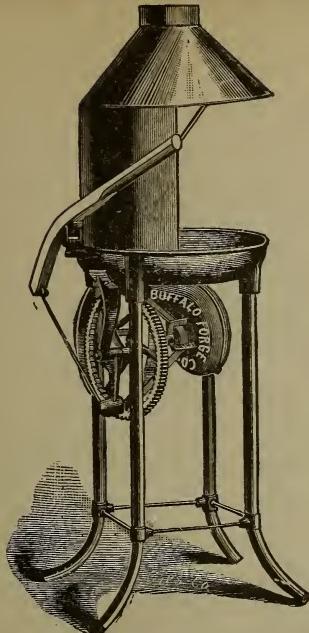
**TOOL MAKERS' FORCE.**

Fig. 671.

Fig. 671.—Half-open hood; height, 33 in.; size of hearth, 18 in. diameter; weight, 75 lbs.

Price, \$27.00.

Fig. 671.—With closed hood; height, 33 in.; hearth, 18 in. diameter; weight, 80 lbs.

Price, \$30.00.

For use in heating and tempering small tools.

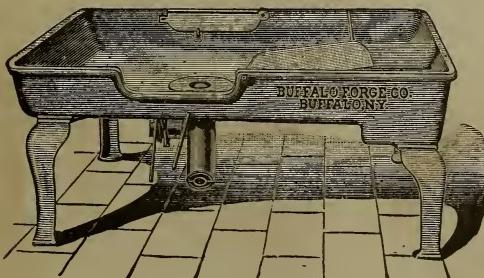
**STATIONARY BLAST FORCE.**

Fig. 673.

## DIMENSIONS IN INCHES:

Fire Pan,  $46\frac{1}{2} \times 47$ ; Coal Box, length,  $23\frac{1}{2}$ ; width, 12; depth, 10; Water Tank, length,  $27\frac{3}{4}$ ; width, 12; depth, 10; Height of Forge,  $26\frac{1}{2}$ ; weight, 722 lbs.

Price, \$70.00.

Fig. 673.—Stationary Blast Forge is designed for the heaviest kind of blacksmith and shipsmith work. The dimensions given afford an idea of its adaptability to the heavy class of work for which it was designed, and which has made it a popular pattern for railroad shop, ship smithing, etc.

**RAILROAD AND BRIDGE BUILDERS' FORCE.**

Fig. 672.

Fig. 672.—Size of hearth, 18 in. diameter; height, 33 in.; weight, 110 lbs.

Price, \$32.00.

This forge is designed especially for railroad track and bridge work, structural iron and ship builders, pipe lines, tank builders, etc. It is practically impossible for breakages to occur, as all the machinery is protected by a steel drum or barrel, and it will withstand any amount of hard usage without injury.

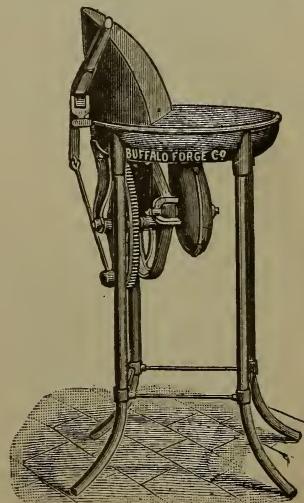
**RIVETERS' PORTABLE FORCE.**

Fig. 674.

Fig. 674.—With dash; height, 33 in.: size of hearth, 18 in. diameter; weight, 70 lbs.

Price, \$24.00.

## BUFFALO BLACKSMITHS' FORCE.

WITH STEEL HOOD.

FIG. 675, FORCE COMPLETE.

With Hand Lever.

Height, 30 in.; size of hearth, 28 x 40 in.; fan, 14 in. diameter; weight, 250 lbs.; with water tank, 300 lbs.

Price . . . . . \$50.00

" with water tank 54.00

This Forge is guaranteed to produce a welding heat on 3-inch iron in 5 minutes, and on 4 inch iron in 10 minutes. Sold only on guaranteed merit.

FIG. 676, POWER FORCE.

Height, 30 in.; size of hearth, 28 x 40 in.; fan, 14 in. diameter; weight, 250 lbs.; with water tank, 300 lbs.

### PRICES.

Fig. 676.—Without water tank . . . \$54.00

" " With water tank. . . . . 58.00

" " With hand-power attachments . . . . . 58.00

" " With hand-power attachments and water tank 62.00

Built complete, with tight and loose pulleys; also, cut-off for the blast, by which the fire can be regulated to any degree.

The hand attachments are a very convenient feature for use in case of breakdowns or when engine is stopped.



Fig. 675.

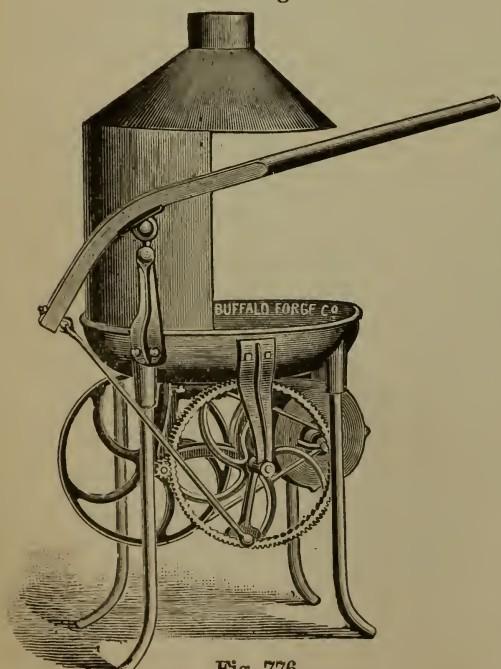


Fig. 776.

## MACHINISTS' PORTABLE FORCE.

FIG. 677. FORGE.—With half-open hood; height, 29 in.; fan, 10 in.; hearth, 21 x 27 in.; weight, 145 lbs.

Price . . . . . \$40.00

These forges are guaranteed to produce a welding heat on 2 $\frac{1}{2}$  to 3-inch iron in from 5 to 10 minutes, and will do heavier work if required.

FIG. 678, POWER FORCE.

Height, 29 in.; fan, 10 in. diameter; hearth, 21 x 27 in.; weight, 140 lbs.

### PRICES.

FIG. 678.—Without water tank . . . \$45.00

" " With water tank . . . . . 49.00

" " With hand-power attachments . . . . . 48.00

" " With water tank and hand-power attachments . . . . . 52.00

For general work in machine shops, mills, or wherever power is available, this forge is especially adapted. The hand-power attachments will be found particularly serviceable in all cases of breakdowns or repairs after hours, when it is not desirable to run the engine to drive the forge fan.

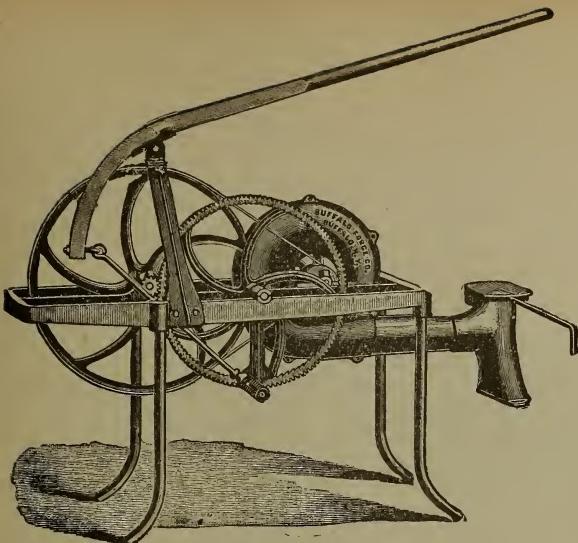


Fig. 678.

## BLACKSMITHS' HORIZONTAL HAND BLOWER.

Fig. 678.

Price, with tuyere complete, \$32.00  
Price, without tuyere . . . 30.00

Fig. 679.

Price, with tuyere complete, \$36.00  
Price, without tuyere . . . 34.00

**TUYERES.** Price, each . \$3.50

**BLOWER.** Fig. 678.—Size of fan, 14 in.; height, 35 in.; length, 32 in.; weight, 130 lbs.; with tuyere, 150 lbs.

**BLOWER.** Fig. 679.—Size of fan, 17 in.; height, 35 in.; length, 35 in.; weight, 200 lbs.; with tuyere, 225 lbs.

This Blower is designed for extra heavy work, as boilermakers' flange fires, heavy ship-smithing, etc.

## BLACKSMITHS' CRANK HAND BLOWER.

Fig. 680.

Size of fan, 14 in.; height, 47 in.; weight, 105 lbs.; with tuyere, 125 lbs.

Price, with tuyere, \$20.00.      Price, without tuyere, \$18.00.  
Tuyeres, price, each, \$3.50.

Blower, Fig. 680, is designed to meet requirements where, for convenience, a Crank Blower is desirable. In its construction we have embodied our Patent Ratchet Crank, which does not continue to revolve when released by the operator, but falls in the position indicated in the cut, which is most convenient in starting the Blower. At 30 turns of crank per minute, this blower will blow strong enough to heat 8 to 4-inch iron in from 5 to 10 minutes.

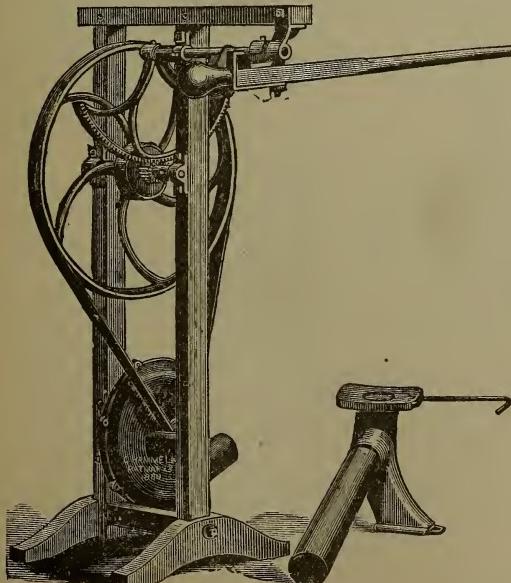


Fig. 681.

## BLACKSMITHS' UPRIGHT HAND BLOWER.

Fig. 681.

Size of fan, 14 in. diameter; height, 47 in.; weight, 115 lbs.; with tuyere, 130 lbs.

Price, with tuyere complete, . . . \$25.00  
Price, without tuyere, . . . . . 23.00  
Tuyeres, price, each, . . . . . 3.50

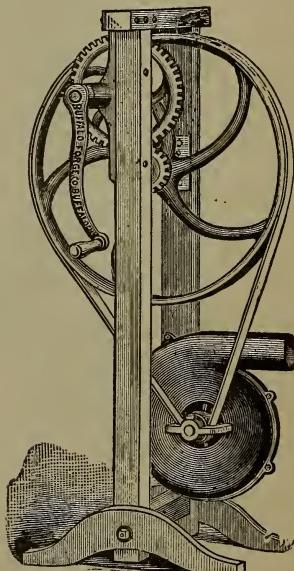


Fig. 680.—Made only right hand.

## ACME HAND BLOWER

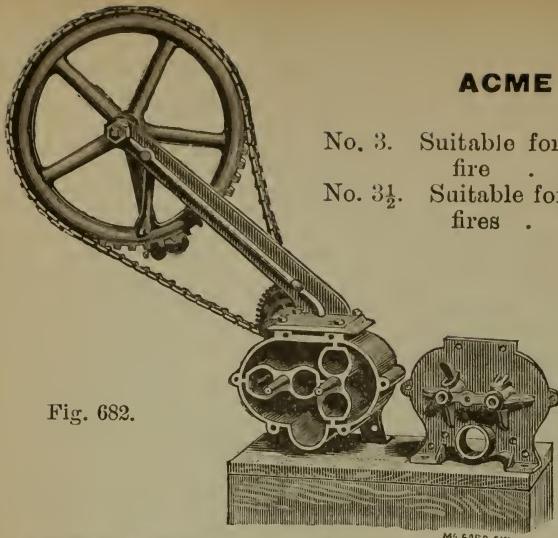


Fig. 682.

No. 3.	Suitable for one ordinary blacksmith's fire . . . . .	\$17.50
No. 3½.	Suitable for two ordinary blacksmith's fires . . . . .	\$39.50

The above are made either for right or left hand fires.

Allow 60 cubic feet per minute for each ordinary blacksmith's fire.

No. 3 is guaranteed to give blast equal to a 60-inch bellows.

## ACME PORTABLE FORCE.

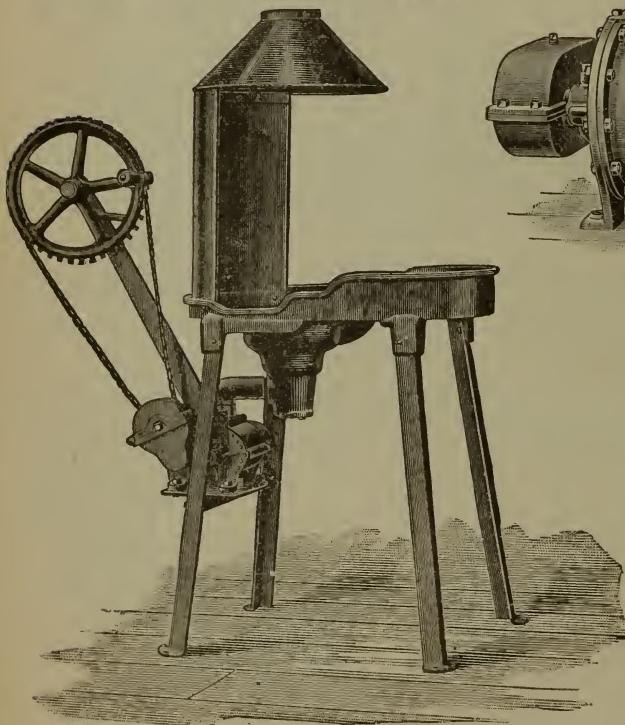


Fig. 684.  
SIZES AND PRICES.

No.	Size Hearth.	Size Bellows	Equal to	*Weight.	Prices, f. o. b. New York.
1	21½ x 13 in.	30 in.	145 lbs.	83.00	
2	24 x 16 "	40 "	170 "	37.00	
3	20 x 30 "	50 "	250 "	41.00	
4	37½ x 25 "	60 "	300 "	45.00	
5	46½ x 31 "	"	"	53.00	

\*In shipping order.

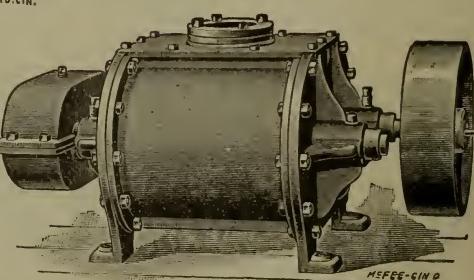


Fig. 683.

No.	Capacity per Revo- lution. Cubic in.	Diam. of Outlet. in.	Size of Pulley. 5½ x 1¾	Medium
				Speed.
3	172	1¼ in.	5½ x 1¾	
3½	325	2 " "	8 x 2	
4	648	3 " "	10 x 3	

No.	Dimensions of Blowers.		
	10 x 10½ x 16 inches.	11 x 13 x 23 "	12 x 16 x 26 "
3			
3½			
4			

No.	Net.	Weights.	
		Gross.	
3	55 lbs.	75 lbs.	
3½	85 "	110 "	
4	188 "	215 "	

No. 3 made with top discharge only. No. 3½ and No. 4 with top or side discharge.

Price of Fig. 683 on application.

**BUFFALO  
STATIONARY BLAST FORCE.**

(PATENTED.)



Fig. 685.

Fig. 685.

With Down-Draft Smoke Exhaust Hood; also Anti-Clinker Dumping Tuyere.

Size of Fire Pan, 24 in. x  $36\frac{1}{2}$  in. Coal Box, length,  $27\frac{1}{4}$  in.; width, 9 in.; depth,  $6\frac{1}{2}$  in. Water Tank, length,  $27\frac{1}{4}$  in.; width, 9 in.; depth,  $6\frac{1}{2}$  in. Height of Forge, 29 in.; weight, 470 lbs.

Price, \$65.00.

**BUFFALO  
STATIONARY BLAST  
FORCE.**

(PATENTED.)

Adapted to Moderate and Heavy Work.

Fig. 686.

With Down-Draft Smoke Exhaust Hood; also Anti-Clinker Dumping Tuyere, Blast Gate, and Coal and Water Boxes.

Size Fire Pan, 37 in. x 41 in. Coal Box, length,  $35\frac{1}{2}$  in.; width,  $7\frac{3}{4}$  in.; depth,  $3\frac{1}{2}$  in. Water Tank, length,  $27\frac{1}{4}$  in.; width, 9 in.; depth,  $6\frac{1}{2}$  in. Height of Forge,  $27\frac{1}{4}$  in. Weight, 550 lbs.

Price, \$70.00.

**BUFFALO STATIONARY BLAST  
FORCE.**

(PATENTED.)

For Moderate and Heavy Work. Steel Plate Construction.

Fig. 687.

With Down-Draft Smoke Exhaust Hood, Anti-Clinker Dumping Tuyere and Blast Gate.

Size Fire Pan, 36 in. diameter. Height of Forge, 26 in. Weight, 330 lbs.

Price, \$75.00.

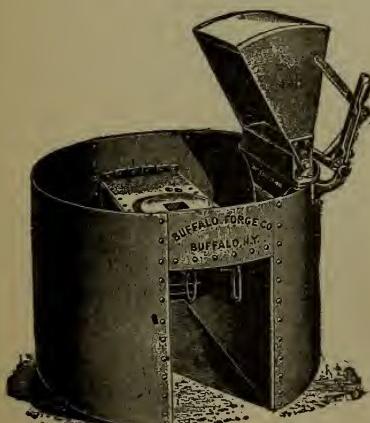


Fig. 687.

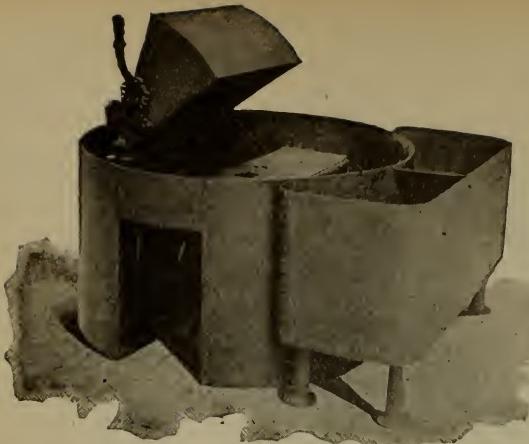


Fig. 688.

### BUFFALO STATIONARY BLAST FORCE.

(PATENTED.)

For Moderate and Heavy Work.  
Steel Plate Construction,  
Fig. 688.

With Down draft Smoke Exhaust Hood, Anti-clinker Dumping Tuyere, Blast Gate, and Coal and Water Boxes.

Size Fire Pan, 36 in. diameter; Coal Box, length, 15½ in.; width, 10 in.; depth, 15 in. Water Tank, length, 18½ in.; width, 10 in.; depth, 15 in. Height of Forge, 26 in. Weight, 410 lbs.

Price, \$100.00

### BUFFALO STATIONARY BLAST FORCE.

(PATENTED.)

For Extra Heavy Work in Railroad Repair Shops, etc.

Fig. 689.

With Down-draft Smoke Exhaust Hood and Blast Gate.

Size of Fire Pan, 42 in. x 42 in. Height of Forge, 24 in. Weight, 1,540 lbs.

PRICE ON APPLICATION.

Fig. 689.

### SPECIAL BUFFALO STATIONARY BLAST HEATING FORCE.

With Down-draft Exhaust Hoods for Removing Gases and Fumes. Designed for Large Railroad Work.



Fig. 690.

PRICE ON APPLICATION.